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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,527	04/02/2001	Kirk Johnson	2762.2006-002	1065
21005	7590	08/16/2004	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			AVELLINO, JOSEPH E	
			ART UNIT	PAPER NUMBER
			2143	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,527

Applicant(s)

JOHNSON, KIRK

Examiner

Joseph E. Avellino

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2001/07/13</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-60 are presented for examination. Claims 1, 19, 35, 40, 45, 47, 52, 55, and 58 are independent.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 14, and 31 recite the limitation "the probabilities" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is undeterminable from the scope of the claims as to what this limitation may be in relation with since this limitation does not occur anywhere in the claimed invention. Therefore, examination is precluded of these claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 11-13, 16, 18, 19, 28-30, 33, 35, 38, 40, 43, 45, 47, 50, 52-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Primak et al. (Pub. No. 2001/0039585) (hereinafter Primak).

6. Referring to claim 1, Primak discloses a system for optimizing server selection for clients from among a plurality of servers in a packet communication network (Figure 1; abstract), the system comprising:

a plurality of servers for alternatively responding to client requests (Figure 1, reference characters 30a-e);

a central server (DNS server) that maintains server selection weights (i.e. connection capacity and connection quality), and, based on the weights, provides a candidate server list (i.e. listing of servers which exceed multiple threshold values for metrics) for responding to a client request, the central server receiving feedback (i.e. measurement statistics) indicating service by individual servers in response to client requests and modifying the server selection weights based on the feedback (Figure 1; abstract; p. 2, ¶ 25; p. 3, ¶ 31).

7. Referring to claim 11, Primak discloses each candidate server in the candidate server list is unique from each other candidate server in the list (i.e. there are no

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duplicate servers returned to the client, merely only ones which are above threshold) (

Figure 1; p. 2, ¶ 23; p. 3, ¶ 31).

8. Referring to claim 12, Primak discloses the feedback occurs at a requested event (i.e. when requested to by the DNS server) (p. 3, ¶ 27-29).

9. Referring to claim 13, Primak discloses the weights are based on a bias factors to reduce convergence time, the bias factors including geographical location (Primak discloses returning the server with the shortest RTT, or round trip time, the server geographically closest to the client will have the higher RTT, and thereby be biased towards that particular server in the weighting of the servers) (p. 2, ¶ 29).

10. Referring to claim 16, Primak discloses the central server includes multiple central servers organized as a distributed system (p. 2, ¶ 25).

11. Referring to claim 18, Primak discloses the candidates represented in the candidate server list are pseudo-randomly selected based on the weights (they are based on feedback received from the servers, which factor upon the current loads of the servers, thereby providing a randomness to the selection factor, there is no actual scheme, such as round-robin, to select the next server, thereby it is considered a pseudo-random selection) (e.g. abstract).

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12. Claims 19, 28-30, 33, 35, 38, 40, 43, 45, 47, 50, 52-60 are rejected for similar reasons as stated above. Furthermore Primak discloses maintaining the count of clients the server is providing service and transmitting that information to the central server (p. 1-2 ¶ 11).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7, 20-24, 32, 36, 39, 41, 44, 46, 48, and 51, are rejected under 35 U.S.C. 103(a) as being unpatentable over Primak.

14. Referring to claim 2, Primak discloses the invention substantively as described in claim 1. Furthermore, Primak discloses comprising a DNS server 10 which receives the client request from the client (p. 2, ¶ 25); and based on the client requests, forwards the client requests to the central server (since the central server is part of the DNS server, it inherently forwards this request to the server when a resolution is to be made based on the server cluster. Primak does not disclose the DNS server is separate from the central server. However it is well known that constructing a formerly integral structure in various elements only requires routine skill in the art (See *Nerwin v. Erlichman* 168

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USPQ 177 (1969)). By this rationale it would have been obvious to one of ordinary skill in the art to separate the functionality of the DNS server and the central server into multiple segments to lessen the operational overhead towards the DNS server, thereby providing faster throughput and better overall customer performance.

15. Referring to claim 3, Primak discloses the invention substantively as described in claim 2. Primak further discloses interrogating candidate servers in the candidate server list (p. 2, ¶ 25).

16. Referring to claim 4, Primak discloses the invention substantively as described in claim 3. Primak further discloses selecting a candidate server based on the interrogation (p. 3, ¶ 31).

17. Referring to claim 5, Primak discloses the invention substantively as described in claim 4. Primak further discloses indicating to the selected candidate server that it has been selected to provide service to the requesting client (it is inherent that when the client sends its request to the selected candidate server via a redirection packet, the server will know that it has been selected to provide service to the requesting client, since the only way for the client to be serviced by the particular server in the cluster is to request the address from the DNS server) (p. 3, ¶ 31).

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18. Referring to claim 6, Primak discloses the invention substantively as described in claim 3. Primak further discloses the DNS server returns to the requesting client the address of the first server to respond to the interrogation (Primak uses this term as the "shortest RTT" or Round Trip Time; since all interrogation requests are sent virtually simultaneously, it would be deduced that the server with the lowest RTT would be the first server to respond to the interrogation) (p. 3, ¶ 29).

19. Claim 7 is rejected for similar reasons as stated above.

20. Referring to claim 15, Primak discloses the invention substantively as described in claim 1. Primak does not disclose the central server includes vectors of server selection weights for subsets of clients. However, it is common knowledge that a DNS server caches certain aspects of a client's session with a server (i.e. maintains state information and would be able to redirect to an appropriate server if the client has an affinity towards that particular machine, either geographical or security). Taken in context with the invention disclosed in Primak, it would have been obvious to one of ordinary skill in the art to include caching weights of servers for particular clients for faster redirection and less transactional overhead.

21. Claims 20-24, 32, 36, 39, 41, 44, 46, 48, and 51, are rejected for similar reasons as stated above.

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Claims 17, and 34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Primak in view of Meek et al. (USPN 6,539,426) (hereinafter Meek).

22. Referring to claim 17, Primak discloses the invention substantively as described in claim 1. Primak does not disclose the client interrogates the candidate servers in the list to measure network performance. Meek discloses another load balancing method wherein client interrogates the candidate servers in the list to measure network performance (col. 10, lines 6-27). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Meek with Primak to adequately provide business applications programs that are distributed amongst the servers in the network providing redundancy and increased application usage as supported by Meek (col. 1, lines 45-50).

23. Claim 34 is rejected for similar reasons as stated above.

Claims 8-10, 25-27, 37, 42, and 49, are rejected under 35 U.S.C. 103(a) as being unpatentable over Primak in view of Guenthner et al. (USPN 6,134,588) (hereinafter Guenthner).

24. Referring to claim 8, Primak discloses the invention substantively as described in claim 1. Primak does not disclose the candidate server list includes extra, randomly selected, candidate servers beyond the candidate servers selected based on the

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weights. In analogous art, Guenthner discloses another server load balancing method wherein the candidate server list includes extra, randomly selected, candidate servers beyond the candidate servers selected based on the weights (e.g. abstract; Figure 8; col. 8, lines 25-50). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Guenthner with Primak to provide a client-side solution to ensure availability of Web services to a Web browser as supported by Guenthner (col. 1, lines 65-67).

25. Referring to claims 9 and 10, Primak discloses the invention substantively as described in claim 1. Primak does not disclose the randomly selected candidate servers are a fixed number/percentage (a percentage is a number) beyond the number of servers selected based on the weights. Guenthner discloses including randomly selected servers based on the weighting (e.g. abstract; Figure 8; col. 8, lines 25-50). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Guenthner with Primak to provide a client-side solution to ensure availability of Web services to a Web browser as supported by Guenthner (col. 1, lines 65-67).

26. Claims 25-27, 37, 42, and 49, are rejected for similar reasons as stated above.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

28. Ballard (USPN 6,078,960) discloses client-side load balancing in client server network.

29. Sarukkai (USPN 6,571,288) discloses empirically measuring capacity of multiple servers and forwards relative weights to load balancer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (703) 305-7855. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA
June 15, 2004



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